

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2004/001964

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C25B-9/06 C25B-1/02 C25B-1/04 C25B-11/02 C25B-11/04 C25B-15/02  
According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C25B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)

CPD and Delphion

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
X	US 4,442,801 (Glynn et al.) (17-04-1984) *figure 2 and column 2, lines 28-62*	1 and 3
X	CA 1,062,660 (Westerlund) (18-09-1979)	1, 3 and 4
X	US 4,028,208 (Giacopelli) (07-06-1977) *figures 7 and 9*	1, 3 and 4
X	CA 1,215,938 (Kircher et al.) (30-12-1986)	1, 2 and 3

[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

\* Special categories of cited documents :  
"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
"L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"X" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"Y" document member of the same patent family

Date of the actual completion of the international search  
3 March 2005 (03-03-2005)

Date of mailing of the international search report  
16 March 2005 (16-03-2005)

Name and mailing address of the ISA/CA  
Canadian Intellectual Property Office  
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
A	BROWN, C.J., et al., "Studies of three-dimensional electrodes in the FMO1-LC laboratory electrolyser", Journal of Applied Electrochemistry, Volume 24, Number 2, pages 95-106 *abstract*	
A	CA 1,123,378 (Larsson) (11-05-1982)	
A	US 6,068,741 (Lin) (30-05-2000)	
A	CA 2,368,508 (Balan et al.) (19-07-2002)	
A	CA 2,209,237 (Balan et al.) (27-12-1998)	
A	US 4,392,937 (Schmitt et al.) (12-07-1983)	
A	CA 1,092,546 (Spirig) (30-12-1980)	
A	CA 2,475,215 (Hyun) (14-08-2004)	
A	CA 1,060,382 (Rahn) (14-08-1979)	

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of the first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

7.  Claim Nos. :  
because they relate to subject matter not required to be searched by this Authority, namely :
8.  Claim Nos. :  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :
9.  Claims Nos. :  
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

The claims fall into 8 general group which define 5 separate inventions:

Group A: Claims 1-5	An electrode for use in a hydrolysis cell comprising a series of perforated electrically conducting wafers, vertically spaced from each other in a congruent stack and a connector.
Group B: Claims 6-8	A hydrolysis cell comprising a casing comprising upper and lower chambers, wherein the lower part comprises a cathode and wherein the upper and lower chambers are separated by a gas and liquid-impervious divider having at least one opening therein retaining a gas-porous but liquid impervious filter.
Group C: Claim 9	The use of the electrode of Group A in the hydrolysis cell of Group B.
Group D: Claims 10-12	An electrode for use in a hydrolysis cell comprising an electrically conductive shaft and a plurality of spaced apart electrically conductive metal filter discs supported on said shaft.
Group E: Claim 13	A hydrolysis cell comprising the electrode of Group D.
Group F: Claims 14-20	A hydrolysis cell comprising a level sensor.
Group G: Claim 21	A hydrolysis cell characterized by a ball valve.
Group H: Claim 22	The system of Group G comprising one of the components of Groups A to F.

**Groups A, B, D, F and G share no common inventive features.**

10.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
11.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
12.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claim Nos. :
13.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim Nos. : 1 to 5

### Remark on Protest

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.  
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Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
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(Continued...)

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(Continuation...)

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